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Filips Van Liere

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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BRIARCLIFF MANOR, NY 10510

EXAMINER

WANG, JIN CHENG

ART UNIT

PAPER NUMBER

2628

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/864,107	Applicant(s) VAN LIERE, FILIPS	
	Examiner JIN-CHENG WANG	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's submission filed on 10/14/2009 has been entered. Claims 1-33 have been canceled. Claims 34, 45 and 53 have been amended. Claims 34-53 are pending in the application.

Response to Arguments

Applicant's arguments, filed 10/14/2009, with respect to the amended claim 34 and similar claims have been considered but are not found persuasive in view of the new ground(s) of rejection based on Echerer et al. U.S. Pat. No. 5,740,267 (hereinafter Echerer) in view of Fenster et al. U.S. Pat. No. 5,454,371 (hereinafter Fenster) in view of Wiedenhoefer U.S. Patent No. 5,832,422 (Wiedenhoefer).

Applicant argues in Page 7 of Remarks that the pertinence of the references is not apparent. Applicant alleges in Page 9 of Remarks that the Office has failed to identify a location in the cited reference where this feature is taught and the pertinence of Echerer is not clear. The Examiner respectfully disagrees. Instead of specifically pointing out which claim limitation is not addressed in the Office Action, Applicant made general allegation that the sections of Echerer to teach the claim invention were not identified. In response to Applicant's argument, the Examiner not only gave the detailed reasoning and analysis as to why the claim limitations are taught by the prior art references, but also has identified in the very first passage in the prior Office Action the relevant passages including the very limited number of passages at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18

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which teaches the claim invention as a whole. It is noted that Applicant's claim limitations are all logically interconnected and the only a few sections have been cited in Echerer against the claim invention. The Examiner has specifically pointed out that Echerer teaches at column 10, lines 1-10 "soft controls" such as buttons, slides, and adjustment tools using software and operated with a mouse. These passages of Echerer as a whole at least has taught the broadest version of the claim invention set forth in the claim 34 and similar claims. USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003).

Nevertheless, Applicant admitted the rejection of the previous version of the claim invention by responding to the prior Office Action with an amendment to the base claims. Previously, Applicant's unamended claim 34 recites receiving (BOTH) a first user input and a selected set of sequential graphic modes. The amended claim 34 recites receiving (ONLY) a first user input that indicates a selected set of sequential graphic modes. Therefore, a new ground(s) of rejection is required in the present Office Action. In responding to Applicant's argument that the pertinence of Echerer is not clear, the Examiner acknowledges that the present application has been extensively prosecuted and Applicant should be aware of every detail in the extensive prosecution history. Applicant may refer to the prosecution history of the present application including the Board Decision of 2/23/2009 in which the pertinent sections of Echerer and Fenster has been already cited. Every claim limitation has been addressed in the prior Office Action as well as the present Office Action. In addition, the Echerer and Fenster are highly relevant

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references pertaining to the claim invention in issue, as evidenced in the Board Decision 2/23/2009 citing a limited number of passages in reference to Echerer and Fenster. Furthermore, the Examiner has pointed out in the prior office action a few relevant sections of the prior art Echerer reference in the following passages.

Echerer discloses enabling the generation of the measurement graphics without activation of ACTION BARS or image fields, OR CONTROL PANELS since Echerer teaches using a mouse only without activating ACTION BARS or image fields, OR CONTROL PANELS. See e.g., column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35. Echerer teaches measuring the length of the two points, measuring an area encircled by at least three points and measuring the angle between two lines formed by four points wherein the four points are specified as in column 21 for measuring the angle. In this setting, Echerer discloses at column 17-18 enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated.

The Examiner has particularly cited the reference passages of Echerer which teaches the claimed steps of defining, receiving, displaying, receiving, entering and performing in a method for execution on a medical-imaging system.

For the reasons discussed above, Echerer teaches at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 using the pointer device to place points and identify the measurement graphic modes and thus enabling the generation of the measurement graphics modes without requiring a user to define a type of graphic being

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generated (column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18).

Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 a method for executing on a medical-imaging system comprising:

Defining one or more sets of sequential graphic modes by drawing points and drawing the lines connecting any two points (line modes) or measuring distances or by measuring areas (distance modes or area modes) (*Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 defining a set of graphic modes including the first set of point mode, line mode and distance mode, a second set of point mode, line mode and area mode and a third set of point mode, line mode and angle mode*),

Receiving a medical image and displaying the medical image on a display device (column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18),

Receiving via a processor a first user input that indicates a selected location/point using a mouse pointer device on the medical image and that indicates a selected set of sequential graphic modes by mouse clicking (*Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 defining a set of graphic modes including the first set of point mode, line mode and distance mode, a second set of point mode, line mode and area mode and a third set of point mode, line mode and angle mode by drawing points, drawing lines and drawing measurement distance/area/angle values. Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35,*

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column 21, and column 17-18 that a mouse input to indicate a selected location using a mouse pointer device on the medical image and that indicates measuring area or measuring distance or measuring angle which further indicates the set of subsequent graphics modes such as the first set of point mode, line mode and distance mode or the second set of point mode, line mode, and area mode or the third set of point mode, line mode and angle mode).

Entering an initial mode of the selected set of sequential graphic modes by entering an initial point (Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 defining a set of graphic modes including the first set of point mode, line mode and distance mode, a second set of point mode, line mode and area mode and a third set of point mode, line mode and angle mode by drawing points, drawing lines and drawing measurement distance/area/angle values. Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 that a mouse input to indicate a selected location using a mouse pointer device on the medical image to indicate measuring area or measuring distance or measuring angle which further indicates the set of subsequent graphics modes such as the first set of point mode, line mode and distance mode or the second set of point mode, line mode, and area mode or the third set of point mode, line mode and angle mode.

Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 that a mouse input to indicate a selected location using a mouse pointer device on the medical image to indicate the set of subsequent graphics modes such as the first set of point mode, line mode and distance mode or the second set of point mode, line mode, and area mode or the third set of point mode, line mode

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and angle mode. Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 entering a point/distance/area/angle mode such as entering a point mode by entering an initial point) and executing a set of predefined graphic operations based on the initial mode while executing a set of predefined measurement operations based on the initial entered point (Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 defining a set of graphic modes including the first set of point mode, line mode and distance mode, a second set of point mode, line mode and area mode and a third set of point mode, line mode and angle mode by drawing points, drawing lines and drawing measurement distance/area/angle values. Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 that a mouse input to indicate a selected location using a mouse pointer device on the medical image to indicate measuring area or measuring distance or measuring angle which further indicates the set of subsequent graphics modes such as the first set of point mode, line mode and distance mode or the second set of point mode, line mode, and area mode or the third set of point mode, line mode and angle mode.

Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 that a mouse input to indicate a selected location using a mouse pointer device on the medical image to indicate the first set of subsequent graphics modes such as the second set of point mode, line mode and distance mode or the set of point mode, line mode, and area mode or the third set of point mode, line mode and angle mode. Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 executing a set of predefined

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drawing operations by drawing points, drawing lines and drawing the distance/angle/area measurement values based on the initial point/angle/area/distance mode including the initial point/angle/area/distance mode while executing a set of predefined measurement operations such as measuring distances/angles/areas based on the initial entered point such as the initial point/angle/area/distance mode); and

Performing via a processor a continuous repetition process of:

Receiving a next sequential user input that indicates a next selected location/point on the medical image by the mouse clicking (Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 entering subsequent points by the sequential user inputs wherein the initial measurement mode is indicated),

Entering a next sequential mode of the selected set of sequential graphic modes for drawing lengths or measuring lengths/areas/angles (Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 entering a next sequential drawing mode for drawing points, drawing lines, drawing distance/angle/area values such as entering a next sequential graphic mode of the first set of the point mode, line mode and distance mode or entering a next sequential graphic mode of the second set of the point mode, line mode and area mode or entering a next sequential graphic mode of the third set of the point mode, line mode and angle mode) and executing a set of predefined drawing operations based on the next sequential mode, if the next sequential user input is not a terminating input, and terminating the repetition process if the next sequential user input is a terminating input (Echerer teaches at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 entering a set of drawing

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operations such as drawing points/lines and distance/area/angle measurement values based on the next sequential mode, and, if the next user input is not another measurement input event, executing a set of predefined drawing operations for drawing points and lines based on the next sequential mode, including drawing modes based on measuring lengths/distances/areas/angles. Echerer teaches at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 drawing the points and drawing the lines and drawing the distance values based on the next sequential graphic measuring/drawing mode, if the next sequential user input is not a terminating input wherein the terminating input is automatically identified and defined by the system to be associated with the entering of the second point when the distance is measured. Terminating the input also happens when switching to another measurement mode, or the closing of the window. Terminating occurs for the area measurement mode when the mouse is clicked to enter the last point for enclosing an area while measuring an area enclosed by the at least three points. Echerer thus implicitly discloses terminating the repetition process if the next sequential user input is a terminating input explicitly indicated by a user input. Echerer thus teaches at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 terminating the repetition process of measuring lengths/distances if the next sequential user input is a terminating input by an explicit user input action including clicking the second point or clicking the mouse while the cursor is located at a point on the medical image to indicate another measurement mode such as measuring area/angle).

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Applicant argues in essence with respect to the claim invention that Echerer does not teach or suggest receiving a first user input that indicates a selected location on the medical image and that indicates a selected set of sequential graphic modes.

Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Using the soft controls Echerer’s method and system allow for a first user input to be entered on the medical image that indicates a selected set of sequential graphic modes (point mode, length/distance mode, area mode) for measuring areas/lengths/distances/angles and the first user input by mouse clicking defines the subsequent graphic modes including point mode, length/distance mode and/or area mode. Echerer teaches using a mouse only *without engaging menus, toolbars or control panels in another monitor* (column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35). Echerer teaches using the pointer device to place points without moving the cursor outside the medical image and without engaging a menu outside the monitor while enabling the generation of the measurement graphics because the system already knows the type of measurement graphic (graphic mode) to be generated in the manual analysis.

Echerer teaches using the mouse operating on an image displayed on the monitor without operating those menus displayed on another monitor. Although a menu or menus can be present on another monitor, menus may not be used at all with the mouse user interface combined with the medical image in at least one session of the graphical user interface in Echerer. Echerer does not have to move the cursor outside the medical image in order to perform the claim invention. That is, Echerer does not have to employ the menu outside of the monitor or outside of the medical image. Echerer’s user-cursor-medical image interaction is enough to provide a sequence

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of measurement graphics (a sequence of graphic modes) of the same type without the use of menu. Echerer teaches in Figs. 3-5 that the medical image and measurement graphics is measured, drawn and displayed without the menus, toolbars and control panels being operated/displayed and in column 10, lines 1-10 the medical image is solely displayed on a monitor without the presence of menus, toolbars and control panels (See also Figs. 3-5).

For example, with regards to the manual analysis, Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer teaches in column 10, lines 1-10 displaying an image solely in one monitor without the presence of menus, toolbars and control panels on said graphical interface on the same monitor because buttons, slides and adjustment tools are displayed on another monitor, or an external monitor that has nothing to do with the monitor displaying the medical image. Echerer teaches in column 10, lines 1-10 displaying a MEDICAL image solely in one monitor. See Figs. 1, 4-5, 10A-11 of Echerer. Echerer teaches displaying the medical image essentially unobstructed in a substantial portion of a graphical interface wherein the user can freely manipulate the pointer/mouse to select points for measuring angles (measurement graphics modes). This is because the type of measurement graphic can be specified in advance by an application developer or by default, as opposed to be specified by a user wherein the claim limitation requires. For example, when the angle measurement is specified by default, a first angle for points (A, B) and (B, C) (first angle mode), a second angle for points (D, E) and (E, F) and a third angle for points (G, H) and points (H, I) (second and third angle modes) can be measured by clicking on the buttons of the mouse on the points on the medical image.

Generating an angle measurement in the process also generates a set of different measurement

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graphics (measurement graphics modes). Moreover, three measurement graphics may also refer to the line connecting points A and B (line mode), the line connecting points B and C (another line mode) and the angle quantity for the same angle measurement (See Figs. 3-5) wherein only one angle measurement generates three measurement graphics as claimed.

Echerer discloses enabling the generation of the measurement graphics (graphics modes) of the same type at least in a default setting wherein the default setting provides the angle measurement. For example, by continuously generating three different measurement graphics (three different graphics modes) including measuring a first angle by clicking on the points A, B and then points B, C and measuring second angle by clicking on the points D, E and then points E, F and measuring a third angle by clicking on the points G, H and H, I, the three different measurement graphics are continuously generated without engaging a “Measure Angle” button because the angle measurement is a default setting in at least one session of the graphics user interface.

Thus, in the above aspect of the invention, Echerer teaches generating graphics modes by using a mouse only *without engaging menus, toolbars or control panels in another monitor.* See e.g., column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35. Echerer teaches using the pointer device to place points (placing point modes) without moving the cursor outside the medical image and without engaging a menu outside the monitor while enabling the generation of the measurement graphics because the system already knows the type of measurement graphic to be generated in the manual analysis.

Echerer's generation of the at least three different measurement graphics (OF THE SAME TYPE) is performed at least through the manual analysis operating on at least one

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measurement type such as the angle measurement that may generate a plurality of measurement graphics as desired. Moreover, Echerer teaches using the pointer device to place points thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated.

Fenster discloses receiving a first user input that indicates a selected location on the medical image and that indicates a selected set of sequential graphic modes such as measuring areas/distances as required by claim 34. Fenster teaches the user simply uses the graphical input device 38 to indicate the two end points over which the distance is to be measured. If an area is to be measured, the user must identify at least three points (column 23, lines 25-39 and Fig. 27).

Fenster thus teaches at column 23, lines 25-39 and Fig. 27 a method for execution on medical-imaging system comprising:

Defining one or more sets of sequential graphic modes (such as line mode, point mode, area mode, angle mode within measuring distances or measuring areas; column 23, lines 25-39 and Fig. 27);

Receiving a medical image (column 23, lines 25-39 and Fig. 27);

Displaying the medical image on a display device (column 23, lines 25-39 and Fig. 27);

Receiving via a processor a first user input that indicates a selected location on the medical image and that indicates a selected set of sequential graphic modes (*receiving a mouse cursor indication of a selected point on the medical image and that indicates set of sequential graphic modes such as the set of point mode, line mode, and distance mode or another set of*

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point mode, line mode and area mode when measuring area/distance is indicated; see column 23, lines 25-39 and Fig. 27);

Entering an initial mode of the selected set of sequential graphic modes and executing a set of predefined graphic operations based on the initial mode (*column 23, lines 25-39 and Fig. 27 entering an initial mode of the graphic drawing modes such as the point mode, line mode, area mode, and/or distance mode when measuring areas/distances and executing a set of mouse clicking events and drawing operations for drawing lines and/or drawing measurement values based on the initial mode such as point mode, line mode, area mode and/or distance mode when measuring a distance or measuring an area);*

Performing via the processor a continuous repetition process of:

Receiving a next sequential user input that indicates a next selected location on the medical image (*column 23, lines 25-39 and Fig. 27, receiving a next sequential user cursor/pointer action that indicates a next selected point on the medical image);*

Entering a next sequential mode of the selected set of sequential graphic modes (*column 23, lines 25-39 and Fig. 27, entering a next sequential mode of point mode, line mode, area mode, distance mode within measuring another distance/area)* and executing a set of predefined graphic operations based on the next sequential mode, if the next sequential user input is not a terminating input (*column 23, lines 25-39 and Fig. 27, Fenster teaches the user simply uses the graphical input device 38 to indicate the two end points over which the distance is to be measured. If an area is to be measured, the user must identify at least three points. If a distance is measured, the second point click is a terminating input. If an area is measured, clicking the last point to enclose an area of the three or more points clicked is a terminating input. If the next*

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sequential user input is not related to measuring an area, executing a set of predefined graphic operations such as drawing points and drawing lines connecting the points based on the next sequential mode such as the point mode, line mode within the measuring the area);

Terminating the repetition process if the next sequential user input is a terminating input (column 23, lines 25-30 and Fig. 27, Fenster teaches the user simply uses the graphical input device 38 to indicate the two end points over which the distance is to be measured. If an area is to be measured, the user must identify at least three points. If a distance is measured, the second point click is a terminating input. If an area is measured, clicking the last point to enclose an area of the three or more points clicked is a terminating input).

Fenster teaches that the user can use the graphical input device such as a single button mouse to measure distances and/or areas of the three-dimensional image within the most recently moved image plane and the user simply needs to use the graphical input device 38 to indicate the two end points over which the distance is to be measured if the user wishes to measure a distance and the user must identify at least three points if an area is to be measured and the placement of points on the image is done by moving a cursor and the display module 92 connects adjacent points by straight line segments and computes both the overall line length and the area bounded by the lines joining the points using an appropriate scale. **In this setting, only a mouse has been placed on the points of the image to measure a distance or an area without activation of menus, toolbars and control panels outside the medical image.**

For the reasons discussed above, Fenster teaches using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated. Thus, Fenster

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discloses defining one or more sets of sequential graphic modes by clicking points, measuring distances or by measuring areas, receiving a medical image, displaying the medical image on a display device, receiving a first user input that indicates a selected location using a mouse pointer device on the medical image and a selected set of sequential graphic modes by clicking points, entering an initial mode of the selected set of sequential graphic modes by entering an initial point and executing a set of predefined graphic operations based on the initial mode while executing a set of predefined measurement operations based on the initial entered point. Fenster teaches performing a continuous repetition process of receiving a next sequential user input that indicates a next selected location/point on the medical image by the mouse clicking, entering a next sequential measuring/drawing mode for drawing lengths or measuring lengths/areas and executing a set of predefined drawing operations for measuring distances/areas and drawing the lines based on the next sequential point clicking and measuring/drawing mode, if the next sequential user input is not a terminating input (a third point clicking allows the area formed by the three points to be measured) wherein the terminating input may be the entering of another point, or switching to another measurement mode, or the closing of the window, or mouse clicking of a third point while measuring a distance between the first point and the second point. Fenster thus implicitly discloses terminating the repetition process if the next sequential user input is a terminating input such as switching to another measurement mode.

When the pointer symbol is situated on the medical image, a measurement graphics is generated without actuation of one button of the mouse on menus, toolbars and control panels because the pointer symbol is situated on the medical image while the measurement graphics is generated. The pointer symbol is not situated on menus, toolbars and control panels when the

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pointer symbol is situated on the medical image. Therefore, the actuation of the at least one button of the mouse enables the generation of the plurality of different measurement graphics including measuring the distance of two points on the medical image and the area encircled by three points on the medical image without actuating at least a button of the mouse when the pointer symbol of the mouse is situated on menus, toolbars and control panels, i.e., when the pointer symbol is subsequently moved away from the medical image after the generation of the measurement graphics. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of distance between two points on the medical image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without clicking on the mouse, even when the pointer symbol is moved outside the medical image and placed on the menus, toolbars, and control panels outside the medical image after the measurement graphics is generated. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of distance between two points on the medical image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without the actuation of the at least one button of the mouse when said pointer symbol is subsequently moved away from the medical image and placed on menus, toolbars, and control panels. Because the pointer symbol is placed on the medical image in the generation of the measurement graphics, the measurement graphics are generated without the movement of the pointer symbol outside of the medical image while the measurement graphics is generated. In conclusion, Fenster discloses the

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claim limitation of enabling the generation of the plurality of different measurement graphics based only upon actuation of said at least one button of said mouse when said pointer symbol is situated on said medical image without actuation of said at least one button of said mouse when said pointer symbol is situated on menus, toolbars, and control panels such that the measurement graphics are generated without movement of said pointer symbol outside of said medical image.

It needs to be shown whether Echerer *explicitly* discloses the claim limitation, “terminating the repetition process if the next sequential user input is a terminating input.” For the reasons given above, Echerer or Fenster at least implicitly discloses the claim limitation. Nevertheless, Wiedenhoefer explicitly discloses at column 18, lines 1-15 the claim limitation by pressing the right control button 8 to terminate the repetition process of the next sequential user input for measuring an angle. Wiedenhoefer discloses all other claim limitations set forth in the present claims.

One having the ordinary skill in the art would have been motivated to do this because it would have provided the measurement angle/distance/area by automatically recognizing the completion of entering all the necessary points for measuring the distance/angle/area (Wiedenhoefer column 18).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 34-44 and 53 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 34-44:

Claims 34-44 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled “Clarification of ‘Processes’ under 35 U.S.C. 101”). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. The claim does not claim a *physical transformation* or a specific machine in the method steps. The claimed processor is general enough to cover a software processor. The claimed display device in the step of displaying...on a display device is not sufficient to meet the requirement for a *specific* machine. The involvement of a general display device in the step of displaying is merely an indirect activity or insignificant extra-solution activity. Neither any specific machine nor the claimed display device is physically transformed to a different state or thing merely because the claimed method uses software instructions implementing the method steps as evidenced in the claim 53. The mere recitation of a display device to collect data and/or to present data necessary for application of *the mental process* in a software instruction may not make the claim patentable subject matter. As *Comiskey*

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recognized, “the mere use of the machine to collect data necessary for application of the mental process may not make the claim patentable subject matter.” *Comiskey*, 499 F.3d at 1380 (citing *In re Grams*, 888 F.2d 835, 839-840) (Fed. Cir. 1989). *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008). *In re Abele and Marshall*, 214 USPQ 682 (C.C.P.A. 1982). *Ex parte Halligan*, 89 USPQ2d 1355, U.S. Patent and Trademark Office Appeal No. 2008-1588. *Ex parte Jakobsson*, 84 USPQ2d 1511, U.S. Patent and Trademark Office Appeal No. 2006-2107, Decided April 16, 2007. *Ex parte Cornea-Hasegan*, 89 USPQ2d 1557 (Bd. Pat. App. & Int. 2009). *Ex parte Langemyr*, 89 USPQ2d 1988, U.S. Patent and Trademark Office Appeal No. 2008-1495. As *Ex Parte* Langemyr recognizes, “nominal or token recitations of structure in a claim and claims reciting incidental physical transformations do not convert an otherwise ineligible claim into an eligible one.”

Additionally, the claim 53, *inter alia*, recites “[a] tangible computer-readable medium that includes computer-executable instructions that when executed by a processor of a computer, causes the processor to perform a method comprising steps to”. Limiting the claim to a computer readable medium does not add any practical limitation to the scope of the claim. Such a field-of-use limitation is insufficient to render an otherwise ineligible claim patent eligible. In essence applicant is preempting all substantial uses of the claimed abstract idea. Moreover, the mere recitation of tangible characterizing the claimed computer-readable medium in the form of a transitory medium does not make transitory medium non-transitory and the claimed transitory medium tangibly embodying computer-executable instructions does not make the transitory

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subject matter statutory, since the claimed computer-readable medium is defined in the Specification at Paragraph 10 to include “Internet” which is transitory and thus is non-statutory (See *Ex Parte* Uceda-Sosa, 90 USPQ2d 1625, USPTO Appeal No. 2008-1632). Computer programs claimed as computer listing per se, i.e., the description or expression of programs, are not physical things. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 34-53 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The unamended claim 34 recites receiving a first user input and a selected set of sequential graphic modes, which differs from the amended claim 34 reciting receiving a first user input (ONLY!). The amended claim 34 (as well as claim 45, and claim 53) recites the new element of “receiving via a processor **a first user input** that indicates a selected location/point and **that indicates a selected set of sequential graphic modes**”. However, a singular first user input does not indicate a selected set of sequential graphic modes and is not enabled by Applicant’s Specification (*see Specification at Page 6, line 15, Page 7, line 10, Page 8, line 8, Page 9, line 23, Page 10, line 17 wherein a singular first user input does not enable a selection*

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of the sequential graphic modes). For example, a first cursor point position only indicates a point mode instead of a set of sequential graphic modes. Furthermore, these claim languages and the associated structural functions are not found in Applicant's Specification. Moreover, clicking on button to activate measurement function does not correspond to the claimed feature of a first user input that indicates a selected location/point on the medical image because a mouse button is not on the medical image. The claims 35-44 depend upon the claim 34 and are rejected due to their dependency on the claim 34. The claims 46-52 depend upon the claim 45 and are rejected due to their dependency on the claim 45.

To comply with the "written description" requirement of 35 U.S.C. § 112, first paragraph, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the "written description" inquiry, whatever is now claimed. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir.1991). For purposes of written description, one shows "possession" by descriptive means such as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). We do not find such descriptive means in the disclosure for the inventions of claims 34, claim 45 and claim 53.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 34-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Echerer et al. U.S. Pat. No. 5,740,267 (hereinafter Echerer) in view of Fenster et al. U.S. Pat. No. 5,454,371 (hereinafter Fenster), in view of Wiedenhoefer U.S. Patent No. 5,832,422 (Wiedenhoefer).

Re Claims 34, 45, and 53:

Echerer discloses enabling the generation of the measurement graphics without activation of ACTION BARS or image fields, OR CONTROL PANELS since Echerer teaches using a mouse only without activating ACTION BARS or image fields, OR CONTROL PANELS. See e.g., column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35. Echerer teaches measuring the length of the two points, measuring an area encircled by at least three points and measuring the angle between two lines formed by four points wherein the four points are specified as in column 21 for measuring the angle. In this setting, Echerer discloses at column 17-18 enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated.

For the reasons discussed above, Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer teaches using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated. Echerer discloses defining one or more sets of sequential graphic

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measuring/drawing modes by drawing the lines connecting any two points or measuring distances or by measuring areas, receiving a medical image, displaying the medical image on a display device, receiving a first user input that indicates a selected location/point using a mouse pointer device on the medical image and a selected set of sequential graphic drawing/measuring modes by mouse clicking, entering an initial mode of the selected set of sequential graphic modes by entering an initial point and executing a set of predefined graphic drawing/measuring operations based on the initial mode while executing a set of predefined measurement operations based on the initial entered point. Echerer teaches performing a continuous repetition process of receiving a next sequential user input that indicates a next selected location/point on the medical image by the mouse clicking, entering a next sequential measuring/drawing mode for drawing lengths or measuring lengths/areas/angles and executing a set of predefined drawing operations for measuring distances/areas/angles and drawing the lines based on the next sequential measuring/drawing mode, if the next sequential user input is not a terminating input wherein the terminating input may be the switching to another measurement mode by soft controls including clicking a button (e.g., switching from by clicking a button for "Measure Distance" to "Measure Angle" on a keyboard). Echerer thus implicitly discloses terminating the repetition process if the next sequential user input is a terminating input that allows the switching from one measurement mode to another measurement mode by soft controls.

For the reasons discussed above, Echerer teaches at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated

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(column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18). Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 a method for executing on a medical-imaging system comprising:

Defining one or more sets of sequential graphic modes by drawing points and drawing the lines connecting any two points (line modes) or measuring distances or by measuring areas (distance modes or area modes) (Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 defining a set of graphic modes including the first set of point mode, line mode and distance mode, a second set of point mode, line mode and area mode and a third set of point mode, line mode and angle mode),

Receiving a medical image and displaying the medical image on a display device (column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18),

Receiving via a processor a first user input that indicates a selected location/point using a mouse pointer device on the medical image and that indicates a selected set of sequential graphic modes by mouse clicking (Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 defining a set of graphic modes including the first set of point mode, line mode and distance mode, a second set of point mode, line mode and area mode and a third set of point mode, line mode and angle mode by drawing points, drawing lines and drawing measurement distance/area/angle values. Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 that a mouse input to indicate a selected location using a mouse

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pointer device on the medical image and that indicates measuring area or measuring distance or measuring angle which further indicates the set of subsequent graphics modes such as the first set of point mode, line mode and distance mode or the second set of point mode, line mode, and area mode or the third set of point mode, line mode and angle mode),

Entering an initial mode of the selected set of sequential graphic modes by entering an initial point (Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 defining a set of graphic modes including the first set of point mode, line mode and distance mode, a second set of point mode, line mode and area mode and a third set of point mode, line mode and angle mode by drawing points, drawing lines and drawing measurement distance/area/angle values. Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 that a mouse input to indicate a selected location using a mouse pointer device on the medical image to indicate measuring area or measuring distance or measuring angle which further indicates the set of subsequent graphics modes such as the first set of point mode, line mode and distance mode or the second set of point mode, line mode, and area mode or the third set of point mode, line mode and angle mode.

Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 that a mouse input to indicate a selected location using a mouse pointer device on the medical image to indicate the set of subsequent graphics modes such as the first set of point mode, line mode and distance mode or the second set of point mode, line mode, and area mode or the third set of point mode, line mode and angle mode. Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column

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15, lines 15-35, column 21, and column 17-18 entering a point/distance/area/angle mode such as entering a point mode by entering an initial point) and executing a set of predefined graphic operations based on the initial mode while executing a set of predefined measurement operations based on the initial entered point (Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 defining a set of graphic modes including the first set of point mode, line mode and distance mode, a second set of point mode, line mode and area mode and a third set of point mode, line mode and angle mode by drawing points, drawing lines and drawing measurement distance/area/angle values. Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 that a mouse input to indicate a selected location using a mouse pointer device on the medical image to indicate measuring area or measuring distance or measuring angle which further indicates the set of subsequent graphics modes such as the first set of point mode, line mode and distance mode or the second set of point mode, line mode, and area mode or the third set of point mode, line mode and angle mode.

Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 that a mouse input to indicate a selected location using a mouse pointer device on the medical image to indicate the first set of subsequent graphics modes such as the second set of point mode, line mode and distance mode or the set of point mode, line mode, and area mode or the third set of point mode, line mode and angle mode. Echerer discloses at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 executing a set of predefined drawing operations by drawing points, drawing lines and drawing the distance/angle/area

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measurement values based on the initial point/angle/area/distance mode including the initial point/angle/area/distance mode while executing a set of predefined measurement operations such as measuring distances/angles/areas based on the initial entered point such as the initial point/angle/area/distance mode); and

Performing via a processor a continuous repetition process of:

Receiving a next sequential user input that indicates a next selected location/point on the medical image by the mouse clicking (Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 entering subsequent points by the sequential user inputs wherein the initial measurement mode is indicated),

Entering a next sequential mode of the selected set of sequential graphic modes for drawing lengths or measuring lengths/areas/angles (Echerer discloses at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 entering a next sequential drawing mode for drawing points, drawing lines, drawing distance/angle/area values such as entering a next sequential graphic mode of the first set of the point mode, line mode and distance mode or entering a next sequential graphic mode of the second set of the point mode, line mode and area mode or entering a next sequential graphic mode of the third set of the point mode, line mode and angle mode) and executing a set of predefined drawing operations based on the next sequential mode, if the next sequential user input is not a terminating input, and terminating the repetition process if the next sequential user input is a terminating input (Echerer teaches at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 entering a set of drawing operations such as drawing points/lines and distance/area/angle measurement values based on

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the next sequential mode, and, if the next user input is not another measurement input event, executing a set of predefined drawing operations for drawing points and lines based on the next sequential mode, including drawing modes based on measuring lengths/distances/areas/angles. Echerer teaches at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 drawing the points and drawing the lines and drawing the distance values based on the next sequential graphic measuring/drawing mode, if the next sequential user input is not a terminating input wherein the terminating input is automatically identified and defined by the system to be associated with the entering of the second point when the distance is measured. Terminating the input also happens when switching to another measurement mode, or the closing of the window. Terminating occurs for the area measurement mode when the mouse is clicked to enter the last point for enclosing an area while measuring an area enclosed by the at least three points. Echerer thus implicitly discloses terminating the repetition process if the next sequential user input is a terminating input explicitly indicated by a user input. Echerer thus teaches at column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35, column 21, and column 17-18 terminating the repetition process of measuring lengths/distances if the next sequential user input is a terminating input by an explicit user input action including clicking the second point or clicking the mouse while the cursor is located at a point on the medical image to indicate another measurement mode such as measuring area/angle).

Echerer teaches at column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35 receiving a first user input that indicates a selected location on the medical image and that indicates a selected set of sequential graphic modes.

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Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Using the soft controls Echerer’s method and system allow for a first user input to be entered on the medical image that indicates a selected set of sequential graphic modes for measuring areas/lengths/distances/angles. Echerer teaches using a mouse only *without engaging menus, toolbars or control panels in another monitor*. See e.g., column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35. Echerer teaches using the pointer device to place points without moving the cursor outside the medical image and without engaging a menu outside the monitor while enabling the generation of the measurement graphics because the system already knows the type of measurement graphic to be generated in the manual analysis.

Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer teaches using the mouse operating on an image displayed on the monitor without operating those menus displayed on another monitor. Although a menu or menus can be present on another monitor, menus may not be used at all with the mouse user interface combined with the medical image in at least one session of the graphical user interface. Echerer does not have to move the cursor outside the medical image while operating buttons to switch among the measurement modes. That is, Echerer does not have to employ the menu outside of the monitor or outside of the medical image. Echerer’s user-cursor-medical image interaction is enough to provide a sequence of measurement graphics without the use of menu. Echerer teaches in Figs. 3-5 that the medical image and measurement graphics is measured, drawn and displayed without the menus, toolbars and control panels being operated/displayed and in column 10, lines 1-10 the medical image is

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solely displayed on a monitor without the presence of menus, toolbars and control panels (See also Figs. 3-5).

For example, with regards to the manual analysis, Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer teaches in column 10, lines 1-10 displaying an image solely in one monitor without the presence of menus, toolbars and control panels on said graphical interface on the same monitor because buttons, slides and adjustment tools are displayed on another monitor, or an external monitor that has nothing to do with the monitor displaying the medical image. Echerer teaches in column 10, lines 1-10 displaying a MEDICAL image solely in one monitor AND THEREBY ECHERER TEACHES DISPLAYING THE MEDICAL IMAGE, ESSENTIALLY UNOBSTUCTED, IN A SUBSTANTIAL PORTION OF A GRAPHICAL INTERFACE. See Figs. 1, 4-5, 10A-11 of Echerer. Echerer teaches displaying the medical image essentially unobstructed in a substantial portion of a graphical interface wherein the user can freely manipulate the pointer/mouse to select points for measuring angles. This is because the type of measurement graphic (singular) can be specified in advance by an application developer or by default, as opposed to be specified by a user wherein the claim limitation requires. For example, when the angle measurement is specified by default, a first angle for points (A, B) and (B, C), a second angle for points (D, E) and (E, F) and a third angle for points (G, H) and points (H, I) can be measured by clicking on the buttons of the mouse on the points on the medical image. Generating an angle measurement in the process also generates a set of different measurement graphics. Moreover, three measurement graphics may also refer to the line connecting points A and B, the line connecting points B and C and the angle quantity for the

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same angle measurement (See Figs. 3-5) wherein only one angle measurement generates three measurement graphics as claimed.

By continuously generating thee different measurement graphics including measuring a first angle by clicking on the points A, B and then points B, C and measuring second angle by clicking on the points D, E and then points E, F and measuring a third angle by clicking on the points G, H and H, I, the three different measurement graphics are continuously generated without engaging a “Measure Angle” button because the angle measurement is a default setting in at least one session of the graphics user interface.

Thus, in the above aspect of the invention, Echerer teaches using a mouse only without engaging menus, toolbars or control panels in another monitor. See e.g., column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35. Echerer teaches using the pointer device to place points without moving the cursor outside the medical image and without engaging a menu outside the monitor while enabling the generation of the measurement graphics because the system already knows the type of measurement graphic to be generated in the manual analysis.

Echerer's generation of the at least three different measurement graphics is performed at least through the manual analysis operating on at least one measurement type such as the angle measurement that may generate a plurality of measurement graphics as desired. Moreover, Echerer teaches using the pointer device to place points thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated.

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Fenster discloses Fenster at column 23 and Fig. 27 receiving a first user input that indicates a selected location on the medical image and that indicates a selected set of sequential graphic modes such as measuring areas/distances as required by claim 34. Fenster teaches at Fenster column 23 and Fig. 27 that the user can use the graphical input device such as a single button mouse to measure distances and/or areas of the three-dimensional image within the most recently moved image plane and the user simply needs to use the graphical input device 38 to indicate the two end points over which the distance is to be measured if the user wishes to measure a distance and the user must identify at least three points if an area is to be measured and the placement of points on the image is done by moving a cursor and the display module 92 connects adjacent points by straight line segments and computes both the overall line length and the area bounded by the lines joining the points using an appropriate scale. **In this setting, only a mouse has been placed on the points of the image to measure a distance or an area without activation of menus, toolbars and control panels outside the medical image.**

Fenster discloses that the user can use the graphical input device such as a single button mouse to measure distances and areas of the three-dimensional image within the most recently moved image plane and the user simply needs to use the graphical input device 38 to indicate the two end points over which the distance is to be measured if the user wishes to measure a distance and the user must identify at least three points if an area is to be measured and the placement of points on the image is done by moving a cursor and the display module 92 connects adjacent points by straight line segments and computes both the overall line length and the area bounded by the lines joining the points using an appropriate scale. **In this setting, only a mouse has been placed on the points of the image to measure a distance or an area without activation of**

menus, toolbars and control panels outside the medical image. For the reasons discussed above, Fenster teaches using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated. Thus, Fenster discloses defining one or more sets of sequential graphic modes by measuring distances or by measuring areas, receiving a medical image, displaying the medical image on a display device, receiving a first user input that indicates a selected location using a mouse pointer device on the medical image and a selected set of sequential graphic modes by mouse clicking, entering an initial mode of the selected set of sequential graphic modes by entering an initial point and executing a set of predefined graphic operations based on the initial mode while executing a set of predefined measurement operations based on the initial entered point. Fenster teaches performing a continuous repetition process of receiving a next sequential user input that indicates a next selected location/point on the medical image by the mouse clicking, entering a next sequential measuring/drawing mode for drawing lengths or measuring lengths/areas and executing a set of predefined drawing operations for measuring lengths/distances/areas and drawing the lines based on the next sequential measuring/drawing mode, if the next sequential user input is not a terminating input wherein the terminating input may be the entering of another measurement mode, or the closing of the window, or mouse clicking of a third point while measuring a distance between the first point and the second point. Fenster thus implicitly discloses terminating the repetition process if the next sequential user input is a terminating input such as another measurement mode.

Fenster thus teaches at column 23, lines 25-39 and Fig. 27 a method for execution on medical-imaging system comprising:

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Defining one or more sets of sequential graphic modes (such as line mode, point mode, area mode, angle mode within measuring distances or measuring areas; column 23, lines 25-39 and Fig. 27);

Receiving a medical image (column 23, lines 25-39 and Fig. 27);

Displaying the medical image on a display device (column 23, lines 25-39 and Fig. 27);

Receiving via a processor a first user input that indicates a selected location on the medical image and that indicates a selected set of sequential graphic modes (*receiving a mouse cursor indication of a selected point on the medical image and that indicates set of sequential graphic modes such as the set of point mode, line mode, and distance mode or another set of point mode, line mode and area mode when measuring area/distance is indicated; see column 23, lines 25-39 and Fig. 27*);

Entering an initial mode of the selected set of sequential graphic modes and executing a set of predefined graphic operations based on the initial mode (*column 23, lines 25-39 and Fig. 27 entering an initial mode of the graphic drawing modes such as the point mode, line mode, area mode, and/or distance mode when measuring areas/distances and executing a set of mouse clicking events and drawing operations for drawing lines and/or drawing measurement values based on the initial mode such as point mode, line mode, area mode and/or distance mode when measuring a distance or measuring an area*);

Performing via the processor a continuous repetition process of:

Receiving a next sequential user input that indicates a next selected location on the medical image (*column 23, lines 25-39 and Fig. 27, receiving a next sequential user cursor/pointer action that indicates a next selected point on the medical image*);

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Entering a next sequential mode of the selected set of sequential graphic modes (*column 23, lines 25-39 and Fig. 27, entering a next sequential mode of point mode, line mode, area mode, distance mode within measuring another distance/area*) and executing a set of predefined graphic operations based on the next sequential mode, if the next sequential user input is not a terminating input (*column 23, lines 25-39 and Fig. 27, Fenster teaches the user simply uses the graphical input device 38 to indicate the two end points over which the distance is to be measured. If an area is to be measured, the user must identify at least three points. If a distance is measured, the second point click is a terminating input. If an area is measured, clicking the last point to enclose an area of the three or more points clicked is a terminating input. If the next sequential user input is not related to measuring an area, executing a set of predefined graphic operations such as drawing points and drawing lines connecting the points based on the next sequential mode such as the point mode, line mode within the measuring the area*);

Terminating the repetition process if the next sequential user input is a terminating input (*column 23, lines 25-30 and Fig. 27, Fenster teaches the user simply uses the graphical input device 38 to indicate the two end points over which the distance is to be measured. If an area is to be measured, the user must identify at least three points. If a distance is measured, the second point click is a terminating input. If an area is measured, clicking the last point to enclose an area of the three or more points clicked is a terminating input*).

When the pointer symbol is situated on the medical image, a measurement graphics is generated without actuation of one button of the mouse on menus, toolbars and control panels because the pointer symbol is situated on the medical image while the measurement graphics is generated. The pointer symbol is not situated on menus, toolbars and control panels when the

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pointer symbol is situated on the medical image. Therefore, the actuation of the at least one button of the mouse enables the generation of the plurality of different measurement graphics including measuring the distance of two points on the medical image and the area encircled by three points on the medical image without actuating at least a button of the mouse when the pointer symbol of the mouse is situated on menus, toolbars and control panels, i.e., when the pointer symbol is subsequently moved away from the medical image after the generation of the measurement graphics. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of distance between two points on the medical image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without clicking on the mouse, even when the pointer symbol is moved outside the medical image and placed on the menus, toolbars, and control panels outside the medical image after the measurement graphics is generated. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of distance between two points on the medical image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without the actuation of the at least one button of the mouse when said pointer symbol is subsequently moved away from the medical image and placed on menus, toolbars, and control panels. Because the pointer symbol is placed on the medical image in the generation of the measurement graphics, the measurement graphics are generated without the movement of the pointer symbol outside of the medical image while the measurement graphics is generated. In conclusion, Fenster discloses the

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claim limitation of enabling the generation of the plurality of different measurement graphics based only upon actuation of said at least one button of said mouse when said pointer symbol is situated on said medical image without actuation of said at least one button of said mouse when said pointer symbol is situated on menus, toolbars, and control panels such that the measurement graphics are generated without movement of said pointer symbol outside of said medical image.

It would have been obvious to one of ordinary skill in the art to have incorporated the Fenster's measurement method into Echerer's method of processing cursored user interaction because Echerer implicitly suggests providing a menu-less graphical interface for display said medical image (*Echerer column 10, lines 1-10 wherein the image is solely displayed in a monitor without menus, toolbars and control panels while being manipulated by the pointing device of column 17-18*) because Echerer's medical image is not covered by the menus, toolbars and control panels (e.g., Echerer column 12, lines 20-30; column 13, lines 25-50) and providing a predefined interaction with said medical image, wherein said interaction is selected from a group of predefined interactions based on said status of each of said at least one button during the interval between multiple said position detection steps (e.g., Echerer column 16, lines 15-67; column 17, lines 1-67; column 18, lines 1-64) therefore this teaching suggesting an obvious modification of the Echerer's method for processing a radiograph.

One having the ordinary skill in the art would have been motivated to do this because it would have provided an alternative drawing option that does not rely on the menus, control panels and toolbars for GUI control (Fenster column 23 and Fig. 27).

It needs to be shown whether Echerer or Fenster *explicitly* discloses the claim limitation, "terminating the repetition process if the next sequential user input is a terminating input." For

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the reasons given above, Echerer or Fenster at least implicitly discloses the claim limitation.

Nevertheless, Wiedenhoefer explicitly discloses at column 18, lines 1-15 the claim limitation by pressing the right control button 8 to terminate the repetition process of the next sequential user input for measuring an angle. Wiedenhoefer discloses all other claim limitations set forth in the present claims.

It would have been obvious to have incorporated Wiedenhoefer's control button to manually provide a means for indicating a completion of entering all of the points necessary for measuring an angle/distance/area of Echerer or Fenster because Echerer or Fenster's system allows the automatic indication of a completion of entering all of the points necessary for measuring an angle/distance/area. When a start point and an end point have been entered in the distance measurement mode, the terminating step occurs after the entering of the end point. After four points have been entered in the angle measurement mode, the terminating step occurs after the entering of the fourth point. One having the ordinary skill in the art would have been motivated to provide a manual input for terminating the repetition process in order for the program to recognize and start to calculate the measurement distance/angle/area because it would have provided the measurement angle/distance/area by automatically recognizing the completion of entering all the necessary points for measuring the distance/angle/area (Wiedenhoefer column 18).

Re Claims 35:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the first user input corresponds to a mouse-click in combination with an identifier of the selected set

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(Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 10, lines 1-10 wherein Echerer teaches clicking to generate points on the medical image or switching to another measurement mode by clicking a button on a keyboard, Fenster column 19, column 23 and Wiedenhoefer column 18).

Re Claims 36 and 46:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the identifier of the selected set is a pressing of a key or button corresponding to the selection of the set (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Buttons using software and operated with a mouse are clearly outside of the medical image. Echerer column 13, lines 12-49 wherein Echerer teaches clicking to generate points on the medical image or switching to another measurement mode by clicking a button on a keyboard, column 15, lines 9-11; Fenster column 19, column 23 and Wiedenhoefer column 18).

Re Claims 37 and 47:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the next sequential user input is a next sequential mouse-click (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11 wherein Echerer teaches

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clicking to generate points on the medical image or switching to another measurement mode by clicking a button on a keyboard; Fenster column 19, column 23 and Wiedenhoefer column 18).

Re Claims 38:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the terminating input corresponds to a selection of a previously selected location on the medical image (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11 wherein Echerer teaches a third clicking on the same second point in a third clicking still allows the generation of the distance between the first point and the second point; Fenster column 19, column 23 and Wiedenhoefer column 18).

Re Claims 39 and 48:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the next sequential mode corresponds to a last sequential mode in the set of sequential graphic modes, subsequent next sequential modes are defined as repetitions of the last sequential mode (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11 wherein Echerer teaches successively clicking to generate points on the medical image (point mode) or switching to another measurement mode by clicking a button on a keyboard for measuring distances/areas/angles (area mode, angle mode and line mode); Fenster column 19, column 23 and Wiedenhoefer column 18).

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Re Claims 40 and 49:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the one or more sets of sequential graphic modes include a set of measurement modes, and a set of drawing modes (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11 wherein Echerer teaches successively clicking to generate points on the medical image or switching to another measurement mode by clicking a button on a keyboard; Fenster column 19, column 23 and Wiedenhoefer column 18; e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11 wherein Echerer teaches successively clicking to generate points on the medical image (point mode) or switching to another measurement mode by clicking a button on a keyboard for measuring distances/areas/angles (area mode, angle mode and line mode); Fenster column 19, column 23 and Wiedenhoefer column 18).

Re Claims 41 and 50:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the set of measuring modes includes, in sequential order, point mode, line mode, angle mode, curve mode, and region mode (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11; Fenster column 19, column 23 and Wiedenhoefer column 18; e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment

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tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11 wherein Echerer teaches successively clicking to generate points on the medical image (point mode) or switching to another measurement mode by clicking a button on a keyboard for measuring distances/areas/angles (area mode, angle mode and line mode); Fenster column 19, column 23 and Wiedenhoefer column 18).

Re Claims 42:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the set of drawing modes includes, in sequential order, freehand and poly-line mode (e.g., Echerer column 13, lines 12-49, column 15, lines 9-11; Fenster column 19, column 23 and Wiedenhoefer column 18, e.g., drawing lines and drawing measurement values).

Re Claims 43 and 51:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the predefined graphic operations include displaying one or more measurements based on a current graphic mode (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11; Fenster column 19, column 23 and Wiedenhoefer column 18, e.g., drawing lines and drawing measurement values).

Re Claims 44 and 52:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the predefined graphic operation include extending a line from a last selected point on the image to a current location of a user-controlled cursor on the medical image (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software

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and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11; Fenster column 19, column 23 and Wiedenhoefer column 18).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jin-Cheng Wang/
Primary Examiner, Art Unit 2628